What is claimed is:

1. An optical information recording medium, comprising:

a transparent substrate having one of concentric-circle guide grooves and a spiral guide groove; and

a phase-change recording layer, on the transparent substrate, which generates a phase-change by being exposed to a laser beam which emission is controlled at where recording marks and spaces between the recording marks both having duration "nT", in which "n" expresses nonnegative integer, and "T" expresses a reference clock period, are to be marked, using Pulse Width Modulation, so as to record, erase, and rewrite information,

wherein the optical information recording medium has recording conditional information pre-formatted thereon, which includes parameters of a plurality of multipulse patterns having different applied liner velocity ranges and information regarding liner velocities capable of recording with each of the multipulse patterns, and

the multipulse patterns are combinations of a heating pulse and a cooling pulse, which specify a light emission waveform of the laser beam.

2. An optical information recording medium according to Claim 1, wherein the recording conditional information further includes parameters of test recording corresponding to each of the multipulse patterns.

3. An optical information recording medium according to Claim 1, wherein one of the multipulse patterns is a 1T cycle pattern including a part where the combination of the heating pulse and the cooling pulse is set as a 1T cycle, and

another one of the multipulse patterns is a 2T cycle pattern including a part where the combination of the heating pulse and the cooling pulse is set as a 2T cycle.

4. An optical information recording medium according to Claim 3, wherein the 1T cycle pattern is a pattern of which the applied liner velocity range is fixed to a specific liner velocity.

5. An optical information recording medium according to Claim 1, wherein the recording conditional information is encoded with a wobble of the guide grove.

6. An optical information recording medium according to Claim 5, wherein the recording conditional

information is encoded using a frequency modulation of the wobble.

7. An optical information recording medium according to Claim 5, wherein the recording conditional information is encoded using a phase modulation of the wobble.

8. An optical information recording medium according to Claim 5, wherein the recording conditional information is encoded in a lead-in area on the optical information recording medium.

9. An optical information recording medium according to Claim 5, wherein the recording conditional information is encoded in one of a part on inner radius side of an information recording area and a part on inner radius side of a test recording area, on the optical information recording medium.

10. An optical information recording medium according to Claim 5, wherein the recording conditional information is encoded in one of a part on outer radius side of a information recording area and outer radius side of a lead-out area, and a part on outer radius side of a

outer peripheral part of a test recording area, on the optical information recording medium.

11. An optical information recording medium according to Claim 1, wherein the recording conditional information is encoded in a part of an information recording area, on the optical information recording medium.

12. An optical information recording medium according to Claim 1, wherein the recording conditional information is written as code in a part of a surface of the optical information recording medium.

13. A method for determining a recording condition, comprising the steps of:

reading pre-formatted recording conditional information, which includes parameters of a plurality of multipulse patterns having different applied liner velocity ranges and information regarding liner velocities capable of recording using the multipulse patterns, from an optical information recording medium loaded in an optical information recording apparatus;

comparing the pre-formatted recording conditional information on the optical information

recording medium with recording conditional information of the optical information recording apparatus regarding performances including recordable liner velocity;

selecting a recording conditional information satisfying a desired optimum condition based on the result of comparing; and

generating a multipulse pattern used for specifying a light emission waveform of a laser beam, based on the selected recording conditional information,

wherein the optical information recording medium, comprises:

a transparent substrate having one of concentric-circle guide grooves and a spiral guide groove; and

a phase-change recording layer, on the transparent substrate, capable of generating a phase-change by being exposed to the laser beam which emission is controlled where recording marks and spaces between the recording marks both having duration "nT", in which "n" expresses nonnegative integer, and "T" expresses a reference clock period, are to be marked, using Pulse Width Modulation, so as to record, erase, and rewrite information, and

the multipulse patterns are combinations of a heating pulse and a cooling pulse.

14. A method for determining a recording condition according to Claim 13, further comprising the step of:

performing a test recording onto the optical information recording medium based on parameters of the test recording, which is also pre-formatted as the recording conditional information, corresponding to the generated multipulse pattern, so as to determine emission power of the heating pulse in accordance with the result thereof.

15. A method for determining recording condition according to Claim 14, further comprising the step of:

performing a test recording onto a test recording area of the optical information recording medium based on the selected recording conditional information so as to make a final determination of a desired optimum condition in accordance with propriety of signal characteristics of resulted recording marks.

16. A method for determining a recording condition according to Claim 13, wherein the desired optimum condition is a condition realizing the highest liner velocity among recordable conditions selected based on the result of comparing.

17. A method for determining a recording condition according to Claim 13, wherein the desired optimum condition is a condition realizing the highest liner velocity among recordable conditions selected based on the result of comparing, with a specific multipulse pattern.

18. A method for determining a recording condition according to Claim 13, wherein the desired optimum condition is any recordable condition selected based on the result of comparing, with a specific liner velocity.

19. A method for determining a recording condition according to Claim 13, wherein the desired optimum condition is a condition realizing the highest stability among recordable conditions selected based on the result of comparing.

20. An optical information recording apparatus, comprising:

a rotation controller configured to rotate an optical information recording medium disposed thereon;

a light source configured to irradiate a laser beam to the optical information recording medium;

a light source driver configured to induce an

emission of the light source;

a reader configured to read pre-formatted recording conditional information from the optical recording information medium;

a comparing mechanism configured to compare the pre-formatted recording conditional information, with recording conditional information of the optical recording information apparatus regarding performances including recordable liner velocity;

a selecting mechanism configured to select a recording conditional information satisfying a desired optimum condition based on the result of comparing by the comparing mechanism;

a pulse pattern generator configured to generate a multipulse pattern used for an emission of the light source, based on the selected recording conditional information;

an emission waveform controller configured to set a recording strategy which determines a light emission waveform of the laser beam based on the generated multipulse pattern by the pulse pattern generator, and to control the light source driver by the recording strategy; and

a speed controller configured to control a relative sweep speed between the optical information

recording medium rotated by the rotation controller and the laser beam irradiated to the optical information recording medium, based on linear velocity of the recording conditional information selected by the selecting mechanism,

wherein the optical information recording apparatus records information onto the optical information recording medium by irradiating the laser beam in accordance with Pulse Width Modulation in which duration of a recording mark is expressed by "nT" which is "n" times of a basis clock period "T", where "n" expresses nonnegative integer.

21. An optical information recording apparatus according to Claim 20, further comprising:

a test recording mechanism configured to perform a test recording to the optical information recording medium based on parameters of the test recording, which is also pre-formatted on the optical information recording medium as the recording conditional information, corresponding to a multipulse pattern of the selected recording conditional information by the selected mechanism, so as to determine a light emission power of the heating pulse.

22. An optical information recording apparatus according to Claim 21, further comprising:

a final determination mechanism configured to finally determine a desired optimum condition based on propriety of signal characteristic of resulted recording marks by the test recording mechanism.

23. An optical information recording apparatus according to Claim 22, wherein the desired optimum condition is a condition realizing the highest liner velocity among recordable conditions based on the result of comparing by the comparing mechanism.

24. An optical information recording apparatus according to Claim 22, wherein the desired optimum condition is a condition realizing the highest liner velocity among recordable conditions based on the result of comparing by the comparing mechanism, with a specific multipulse pattern.

25. An optical information recording apparatus according to Claim 22, wherein the desired optimum condition is any recordable condition selected based on the result of comparing by the comparing mechanism, with a specific liner velocity.

26. An optical information recording apparatus according to Claim 22, wherein the desired optimum condition is a condition realizing the highest stability among recordable conditions selected based on the result of comparing by the comparing mechanism.

27. An information processing apparatus, comprising:

an optical information recording apparatus,

wherein the optical information recording apparatus, comprises:

a rotation controller configured to rotate an optical information recording medium disposed thereon;

a light source configured to irradiate a laser beam to the optical information recording medium;

a light source driver configured to induce an emission of the light source;

a reader configured to read pre-formatted recording conditional information from the optical recording information medium;

a comparing mechanism configured to compare the pre-formatted read recording conditional information, with recording conditional information of the optical recording information apparatus regarding performances

including recordable liner velocity;

a selecting mechanism configured to select a recording conditional information satisfying a desired optimum condition based on the result of comparing by the comparing mechanism;

a pulse pattern generator configured to generate a multipulse pattern used for an emission of the light source, based on the selected recording conditional information;

an emission waveform controller configured to set a recording strategy which determines a light emission waveform of the laser beam based on the generated multipulse pattern by the pulse pattern generator, and to control the light source driver by the recording strategy; and

a speed controller configured to control a relative sweep speed between the optical information recording medium rotated by the rotation controller and the laser beam irradiated to the optical information recording medium, based on linear velocity of the recording conditional information selected by the selecting mechanism,

wherein the optical information recording apparatus records information onto the optical information recording medium by irradiating the laser beam in accordance with

Pulse Width Modulation in which duration of a recording mark is expressed by "nT" which is "n" times of a basis clock period "T", where "n" expresses nonnegative integer.